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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/115,359	Merill
Examiner	**Group Art Unit**
Robert Sax	2748

[X] Responsive to communication(s) filed on *May 19, 2000*

[ ] This action is **FINAL.**

[ ] Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

[X] Claim(s) *8-15 and 21-24* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

[ ] Claim(s) _____ is/are allowed.

[X] Claim(s) *8-15 and 21-24* is/are rejected.

[ ] Claim(s) _____ is/are objected to.

[ ] Claims _____ are subject to restriction or election requirement.

Application Papers

[ ] See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

[ ] The drawing(s) filed on _____ is/are objected to by the Examiner.

[ ] The proposed drawing correction, filed on _____ is [ ] approved [ ] disapproved.

[ ] The specification is objected to by the Examiner.

[ ] The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

[ ] Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

[ ] All [ ] Some* [X] None of the CERTIFIED copies of the priority documents have been

[ ] received.

[ ] received in Application No. (Series Code/Serial Number) _____.

[ ] received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

[ ] Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

[X] Notice of References Cited, PTO-892

[ ] Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

[ ] Interview Summary, PTO-413

[ ] Notice of Draftsperson's Patent Drawing Review, PTO-948

[ ] Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 8-10 and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Andreshak.

As per claims 8 and 12 step (1) of a speech recognition method which associates speech commands with identifiers, Andreshak (US Patent 5,664,061) teaches "speech recognizer" 32 for recognizing a spoken command using Markov models as identifiers of an acoustic pattern stored in "system acoustic command model vocabulary store" 28 which identifiers of acoustic command models include global commands identifying functions as actions which can be performed in each active state of a target program (column 3, lines 61-65; col. 7, lines 37-48).

As per claims 8 and 12 step (2) of a speech recognition method which associates identifiers with actions to be taken in response to each speech command, Andreshak teaches

input of image object identifiers by 26 (see Fig. 1 and 1a) to 27 which identifies for input to speech recognizer 32 which command words and phrases can be executed given the current state of an active target program where identifiers of displayed objects are associated with the list of active-state commands which can produce valid actions associated with the currently active state of the target program (abstract, lines 4-12), i.e., where active state commands by image objects are intercepted by "image object identifier" 26 and are directed to "active-state command model vocabulary identifier" 30 which identifiers an associated subset of "command model vocabulary store" 28 to identify the words and phrases which are currently active and are to be recognized by "speech recognizer" 32 which, when a currently active command word or phrase is recognized, outputs a command signal to be executed to "processor executing target computer program" 10 (col. 5, lines 11-44; col. 8, lines 9-20).

As per claims 8 and 12 step (3) of determining the identifier of a spoken command, Andreshak teaches determining the identifier of a spoken command by matching spoken words or phrases to stored acoustic patterns but limits recognition or action on recognized commands to a dynamic vocabulary of words and phrases associated with the current state of objects within an active target program as determined by image object identifier 26 (see Fig. 1) where the currently valid vocabulary, a subset of the full vocabulary, is determined by vocabulary identifier 30 as input to speech recognizer 32 of the currently active-state vocabulary items which speech recognizer 32 recognizes by matching the appropriate acoustic pattern stored in vocabulary store 28 wherein recognized commands, limited to the subset vocabulary identifiers of 30, result in a command

signal sent by 32 to processor 10 is executed by the target program under its current state (column 4, lines 5-49; col. 5, line 11 -col. 6, line 15; col. 8, lines 9- 39).

As per claims 8 and 12 (4) of providing the identifier to a software object, Andreshak teaches identifying at least one object displayed in the active state image of the target computer program which may comprise an operating system alone, an application and an operating system, combined, or two or more applications and an operating system (column 4, lines 38-48; column 3, lines 42-47).

As per claims 9, 10 and 13 of creating an object in a container and communicating an identifier signal to identify an object when a command is spoken and communicating information to the object on a vocabulary list in the container for a command used in an active task and sending the identifier for the command to the object, Andreshak teaches illustration by describing C programming language source code of reading an active state image for creating vocabulary from the active state image defined for the speech recognition engine and outputting a command signal from the active-state vocabulary having the best match score which is sent to activate the object associated with the vocabulary item, e.g., command (column 16, lines 18-26).

As per claim 14 and 15 (1) of computer response to inputs by an object receiving spoken or non-spoken commands, Andreshak teaches computer response to inputs by an object receiving or non-spoken commands as shown on Fig. 1 where "image object identifier" 26 (col. 6, lines 5-13) intercepts signals (col. 5, lines 58-61), from displayed active-state objects (col. 5, lines 35-43) activated by an interactive user of the target program 10 (col. 5 lines 29-35),

and identifies identifiers of command objects of target program 10 which are currently open in its current active state which are sent to "active state command model vocabulary identifier" 30 which identifies the current active state vocabulary items associated with acoustic command modules which are valid for the current target program's active state (col. 8, lines 9-13) which active state vocabulary subset is accessed by speech recognizer which limits recognition of patterns stored in "acoustic command model store" 28; wherein a speech recognizer for converting an utterance to a command signal (abstract, lines 2-4) resulting in a displayed object identifying functions performed by the command signal performing the command invoked on the target program (abstract, lines 8-12) as an object on a menu of active state commands inputted by unspoken keyboard, mouse or other unspoken standard input (column 4, lines 38-48).

As per claims 14 and 15 (2) of firing an event when the object receives command information, Andreshak teaches invoking displays of the object invoked by interaction by mouse or keyboard or by speech recognition with displayed active-state software items generating inputs of active state command signals (column 5, lines 24-39) resulting in a sequence of consequential interactive events generated by the target program or by the operating system (col. 5, line 65 - col. 6, line 21); e.g., where as shown on Fig, 1a where an event, appropriate to the current state of active objects of target program 10, as determined by image object identifier 26 and limited to the suitable subset of active vocabulary items listed by 27, is recognized by speech recognizer 32 which fires the event to processor 10 where an active object executes the event or accepts further

user interaction if the recognized event is ambiguous (col. 8, line 66 - col. 9, line 10; col. 9, lines 34-40).

3. Claims 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Trower II et al.

As per claims 14 and 15 (1) of computer response to inputs by an object receiving spoken or non-spoken commands, Trower II et al (US Patent 5,983,190) teaches a commands object that enables clients to specify a collection of commands that an agent object will respond to a client is made active including a list of commands that the server defines for general interaction with the user as accessed visually through a window as a caption with visible properties or as accessed by setting the voice property of a command for speech recognition (column 27, lines 4-26).

As per claims 14 and 15 (2) of firing an event when the object receives command information, Trower II et al teaches an OLE control object in a host application called a container where OLE controls an event by notifying a container that something has happened to be implemented in the container by standard OLE automation methods by calling the proper container method to fire the event (column 21, lines 24-40).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreshak in view of Denning.

The applicant is thanked for providing remarks and information resolving the issue of the patentability of claim 11 including sending the reference to a Microsoft Press publication, "Active X Controls Inside Out" by Adam Denning which indicate the OnMnemonic method Visual Basic construct for controlling communication by an object to a container.

As per claim 11 of using the OnMnemonic method to communicate between the container and the object, Andreshak teaches communication of a command signal as an identifier of a recognized spoken command which is to be executed by an instantiated object in the container, said command signal limited to the subset vocabulary of commands appropriate to currently active interactive objects of a target program and further, after recognizing the acoustic pattern identifier of said command, sends the command signal to the target program which executes the command

either automatically or interactively, if verification or additional information is required (col. 8, lines 9-39).

Andreshak does not use the OnMnemonic method to control communication between an object and container.

Denning teaches Mnemonic method as a control interface for an object communicating events between object and container ("Control and Container Communication", pp 110-111).

It would have been obvious to an artisan and at the time of the invention to use the Mnemonic method as a Visual Basic construct for creating an object oriented control and communication interface for object oriented speech recognition software integrated with other interactive objects of a target program capable of communicating with application servers.

6. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al.

As per claim 21 of the method which comprises the following four steps.

(a) Associating a spoken and non-spoken command with the same identifier, Hashimoto et al teaches a speech recognition interface for window systems for simultaneously accessing active application programs, where speech is an optional standard input used interchangeably and in focus with other standard input such as the mouse and keyboard to invoke a command to perform the same action in response to the speech command as would have been obtained by any other data input means such as the keyboard and mouse (col. 18, lines col. 10-22).

(b) Associating the identifier with an action to be taken in response to a spoken or non-spoken command, Hashimoto teaches a speech I/O interface, for invoking commands controlling actions performed by any active general application program not connected to the speech I/O system, by special application programs for speech I/O containing a speech interface management system which can make any general application programs speech controllable by converting speech inputs into a standard form for accepting commands from any optional standard input means, in order to produce the same action in response to the spoken command input as would have been produced by nonspoken command input such as by mouse or keyboard; where based on this it would have been obvious to infer that the same action produced in response to any standard input, whether inputted to an application by speech I/O or other I/O has the same identifier which would have been inferred to have been the label for activating the object code executed in response to the spoken or nonspoken command input (col. 59, lines 3-20, 49-58).

(c) Determining the identifier for spoken and unspoken commands, Hashimoto teaches a common identifier associated with actions performed by operation command message transmitted to a general application program without any special built-in speech processing capability where recognized speech commands are interfaced with general application programs by a speech interface management program utilizing program operation registration unit with a table to convert speech recognized commands to a form acceptable to the active general application program in order to convey the same identifier message as the other more standard usual input devices such as the keyboard or mouse (col. 59, line 59 - col. 60, line 21).

(d) of claim 21 for providing the identifier to a software object, claim 22 of instantiating an object in a container and communicating the identifier to the object, and (a) of claim 23 of communicating a spoken command to the container, Hashimoto teaches providing the identifier as messages transmitted to a software object by activating a container such as a general application program or instantiating a window object in the activated general application program by usual means of identifier messages conveyed to the object, by standard mouse and/or keyboard input or alternatively by speech input, in order to facilitate transmission of the operation command by utilizing functions provided by the window system library, where in place of transmitting the identifier message directly to the general application program, the message is transmitted to the a software object generated by the container which is the activated general application program, where messages conveying an operation command must be addressed to the same identifier of a destination object as would have been the case as if invoked by a by usual input devices of mouse and keyboard; where even in such cases, it is easy to determine the identifier of the destination object from information obtained the window system and the program operation registration unit under the speech interface management system (col. 59, line 49 - col. 60, line 31).

As per claim 23 (b) of checking an active vocabulary list in the container to determine if a spoken command is related to an activated task and claim 23 (c) wherein if a spoken command is related to the active task transfer the identifier to the object, Hashimoto teaches a speech recognition interface system as container or server comprising a speech recognition unit and a message processing unit connected to a program management table, also connected to plural

active applications or clients. The program management table stores information received from an active application for communicating spoken commands by updating input masks and input flags for speech focus and vocabulary appropriate to the state of the application program determined from previous speech commands and other forms of standard input such as mouse or keyboard,. The container vocabulary list at the time of a spoken command is controlled by messages received from the application or object generated by the application which determine settings of the input masks and flags controlling speech focus. (col. 10, line 8 - col. 11, line 10 col. 12, lines 11-55; col.19, line 18 - col. 20, line 12; col. 59, line 65 - col. 60, line 32; col. 66, lines 33-45).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al in view of Demming et al. .

As per claim 24 of including the OnMnenomic method to communicate between the container and the object, Denning teaches the Microsoft Active Controls specification for Microsoft Windows which facilitates control and container communications implemented as IOleControl by an embedded object and as IoleControlSite implemented by the container, where IoleControl has four methods which include OnMnemonic(MSG *pMsg) which is called by the container when a key, designated by a single Mnemonic is pressed in order to shift activation to a next control capable of receiving focus (page 111, line 23 - page 112, line 29).

Hashimoto teaches a control means of using library functions of a windows system for facilitating communication between a container and a window generated by an application as the software object (see claim 22 and claim 21 (d)).

Hashimoto does not teach a speech I/O interface limited to the Microsoft Windows System and the Active Controls specification for using the OnMnemonic method as a specific window function available to facilitate communicating messages from the container to the object

It would have been obvious to an artisan and at the time of the invention to use the Mnemonic method as a Visual Basic construct for creating an object oriented control and communication interface for object oriented speech recognition software integrated with other interactive objects of a target program capable of communicating with application servers.

Response to Arguments

7. Applicant's arguments filed paper number 5 have been fully considered but they are not persuasive. The examiner thanks the applicant for the enlightening and clearly stated remarks regarding the underlying concept of the invention and for the disclosure by the applicant of the prior art of Denning.

With respect to remarks on claim 8, regarding Andreshak teaching identifiers associated with actions taken in response to speech command, more careful consideration by the examiner of the method taught by Andreshak resulted in clarification by additional details and references cited

showing how Andreshack teaches a dynamic speech recognition process which determines the identifiers of changing vocabulary items corresponding activated states of a target application program.

Similarly the remarks regarding claim 14 were carefully considered. Andreshak teaches response to either tactile or spoken user input by a speech recognition object which performs speech recognition dynamically determining the identifiers of a vocabulary subset compatible with the active state of the target application where the speech recognizer responds to recognized commands by firing an event appropriate to said activated states of the target application program.

Given the broadness of claim 8 and claim 14, the method taught by Andreshak and the applicant are very similar even though comparison of Fig. 1 of the application to Fig. 1 and Fig. 1a of Andreshack suggest differences especially in the control and communication process which appears to be centralized as taught by the applicant and decentralized as taught by Andreshak.

Suggestions of using identifiers occur throughout Andreshak et al, for example, see image object identifier 26 and command vocabulary identifier 30 which is received by speech recognizer 32 which transmits command recognition results to the command executing processor 10; also, image object identifiers received directly by command processor 10 which is presumably from mouse input.

As a result of the broadness of the terms "associated" and "identifiers", HMM's can be viewed as identifiers associated with a command. For example, a set of HMM's are used to recognize each phoneme in the utterance of a command which produces a sequence of phonemes recognized as a word, which is associated with a sequence of alphabetic letters, which in turn is associated with the same sequence of ASCII codes generated by keystrokes on a keyboard. therefor, speech input and keyboard input results in the same ASCII code sequence recognized by the computer, in either command input case, as the label identifying the object code to be executed; which thereby produces the same action.

In the case of providing the identifier to a software object, whether the command is invoked by a mouse click, a typed expression or spoken expression as a standard input means for invoking the command, the same identifier provided to the software object will result in execution of the same object code.

ActiveX Controls specification have been published in a book by Denning in 1997, and the applicant is applying said specification to a specific control application. Claiming use of OnMnemonics is obvious as taught by Denning, but claiming use of OnMnemonics to implement speech recognition in containers or servers capable of shifting speech focus between multiple active tasks most likely is not obvious. See applicant specification page 8, line 26 to page 9, line 24.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sax whose telephone number is (703) 306-3017.

If attempts to reach the examiner are unsuccessful, the examiners supervisor, Krista Zele can be reached at (703) 305-4701.

Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-3900.

RLS

KRISTA ZELE
SUPERVISORY PATENT EXAMINER
GROUP 2700

July 6, 2000